S/137/62/000/003/148/191
A052/A101

AUTHORS: Kazantsev, I. G., Kuznetsov, A. F., Privezentsev, I. Ya.

TITLE: Investigation of the corrosion resistance of high-alloy steels under conditions of the coke chemical industry

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1962, 81, abstract 3I520 ("Sb. nauchn. tr. Zhdanovsk. metallurg. in-t, no. 7, 1961, 92-95)

TEXT: The corrosion resistance of four most important grades of stainless steel [Cr-steel Х 18 (Kh18), Cr-Ni-steel of Х 18Н8 (Kh18N8) type, Cr-Mn-steel Х18Г13 (Kh18G13) and chrome-mangano-nitrous steel of Х18Г13 (Kh18G13) type but containing 0.5% N] was investigated in application to the service conditions of the coke chemical equipment. The steels were tested under laboratory conditions in a chamber with moist air containing H_2S and under industrial conditions in vapors of the coke slaking tower utilizing impure water of the coke chemical industry. The composition of the environment in the corrosion chamber (in %): air - 89.8, steam - 10, H_2S - 0.2; the temperature of the chamber = 80°C, the duration of the tests = 450 hours. The conventional carbon steel МСт3 (MSt3) has the rate of corrosion in the moist air containing 2 vol.% H_2S amounting to

Card 1/2

Investigation of the corrosion resistance ...

4.3 mm/year and in the vapor flow of the coke slaking tower - to 1.7 mm/year. The high-alloyed steels X18 (Kh18), X18H8 (Kh18N8), X18G13 (Kh18G13 and Kh18G13 with 0.5% N under service conditions of the coke chemical equipment exposed to the moist and sulfurous coke oven gas for all practical purposes do not corrode.

V. Tarisova

[Abstracter's note: Complete translation]

Card 2/2

KAZANTSEV, I.G.; KUZNETSOV, A.F.; PRESNYAKOV, V.M.; MOLONOV, G.D.; KUZEMA, I.D.; CHERNYSHEV, I.S.; OLESHKEVICH, T.I.; KISSEL', N.N.; ANTOKHIN, N.T.; ROYANOV, V.V.

Manufacture of very thick plate from capped steel. Izv. vys. ucheb. zav.; chern. met. 6 no.6:49-50 '63. (MIRA 16:8)

1. Zhdanovskiy metallurgicheskiy institut i zavod im. Il'icha.
(Steel ingots) (Rolling (Metalwork)--Quality control)

KAZANTSEV, I.G., prof.; LUKASHOV, G.G., inzh.; GORBANEV, Ya.S., inzh.; TARASOVA, L.P., inzh.; SAPELKIN, N.F., inzh.

Strength of welded joints in arsenic containing structural steel produced at the "Azovstal'" Plant. Stal' 23 no.12:1112-1114 D '63. (MIRA 17:2)

1. Zhdanovskiy metallurgicheskiy institut i metallurgicheskiy zavod "Azovstal'".

KARAUISEV, [illegible].G.; KHARITONOV, A.S.; TARASOVA, I.[illegible].

Mechanical properties of structural steel smelted from phosphorous cast iron in an oxygen-blown converter. Izv. vys. ucheb. zav.; chern. met. 7 no.2:33-35 '64. (MIRA 18:3)

1. Zhdanovskiy metallurgicheskiy institut.

KAZANTSEV, I.G.; KAPUSTIN, Ye.A.; RUDMAN, V.D.

Determining the coefficient of mass transfer between the gaseous phase and the bath of an open-hearth furnace. Izv. vys. ucheb. zav.; chern. met. 8 no.11:44-47 '65.
(MTRA 18:12)

1. Zhdanovskiy metallurgicheskiy institut.

KAZANTSEV, I.I.

Raise scaffolding of the Tagil Construction Trust. Prom. stroi. 40 no.7:38-40 Jl '63. (MIRA 16:10)

KAZANTSEV, I.I., inzh.; POMINOV, L.V.; KUPLEVATSKIY, A.N.

Making prestressed arched girders in construction yards.
Bet.i zhel.-bet. no.1:33-34 Ja '60. (MIRA 13:5)
(Nizhniy-Tagil'--Girders)

SHUL'GA, M.S. (g. Chernovtsy); SIDORYCHEVA, A.G.; SVIRIDOV, V.I. (Rostov-na-Donu); SHEKHTERMAN, M.E. (g. Tiraspol'); ZHIGALOV, K.S. (pos. Bilimbay Sverdlovskoy oblasti); SERYAKOV, A.A. (Murom); SAKEVICH, N.M. (Vitebsk); KAZANTSEV, I.I.

Readers suggestions. Fiz. v shkole 21 no.6:80-81 N-D '61. (MIRA 14:12)

1. Turochakskaya srednyaya shkola Gorno-Altayskoy avtonomnoy oblasti (for Kazantsev).

(Physics--Experiments)

CHUVATOV, V.V.; BEREZIN, N.N.; METSGER, E.Kh.; NAGIN, V.A.; KARTASHOV, N.A., kand. tekhn. nauk, dots.; MIL'KOV, N.V., kand. tekhn. nauk; BYCHKOV, M.I., kand. tekhn.nauk, dots.; SUKHANOV, V.P., SHLYAPIN, V.A.; KORZHENKO, L.I.; ABRAMYCHEV, Ye.P.; KAZANTSEV, I.I.; YARES'KO, V.F.; LUKOYANOV, Yu.N.; DUDAROV, V.K.; BALINSKIY, R.P.; KOROTKOVSKIY, A.E.; PONOMAREV, I.I.; NOVOSEL'SKIY, S.A., kand. tekhn.nauk, dots.; IL'INYKH, N.Z.; TSITKIN, N.A.; ROGOZHIN, G.I.; PRAVOTOROV, B.A.; ORLOV, V.D.; RACHINSKIY, M.N.; KULTYSHEV, V.N.; SMAGIN, G.N.; KUZNETSOV, V.D.; MACHERET, I.G.; SHEGAL, A.V.; GALASHOV, F.K.; ANTIPIN, A.A.; SHALAKHIN, K.S.; RASCHEKTAYEV, I.M.; TISHCHENKO, Ye.I.; FOTIYEV, A.F.; IPPOLITOV, M.F.; DOROSINSKIY, G.P.; ROZHKOV, Ye.P.; RYUMIN, N.T.; AYZENBERG, S.L.; GOLUBTSOV, N.I.; VUS-VONSOVICH, I.K., inzh., retsenzent; GOLOVKIN, A.M., inzh., retsenzent; GUSELETOV, A.I., inzh., retsenzent; KALUGIN, N.I., inzh., retsenzent; KRAMINSKIY, I.S., inzh., retsenzent; MAYLE, O.Ya., inzh., retsenzent; OZERSKIY, S.M., inzh., retsenzent; SKOBLO, Ya.A., dots., retsenzent; SPERANSKIY, B.A., kand. tekhn. nauk, retsenzent; SHALAMOV, K.Ye., inzh., retsenzent; VOYNICH, N.F., inzh., red.; GETLING, Yu., red.; CHERNIKHOV, Ya., tekhn. red.

[Construction handbook] Spravochnik stroitelia. Red.kollegiia: M.I. Bychkov i dr. Sverdlovsk, Sverdlovskoe knizhnoe izd-vo. Vol.1. 1962. 532 p. Vol.2. 1963. 462 p. (MIRA 16:5)
(Construction industry)

KAZANTSEV, Ivan Nikolayevich

URCK V SOVETSKOY SHKOLE (THE LESSON ASSIGNMENT IN THE SOVIET SCHOOL) IZD. 2., ISPR. I DOP. MOSKVA, UCHPEDGIZ, 1956. 350 p. "BIBLIOGRAFIYA": p. 338-349.

KAZANTSEV, I.I., dotsent

Organizing housing construction combines under the jurisdiction of the Sverdlovsk Economic Council. Trudy Ural.politekh.inst. no.109: 103-106 '61. (MIRA 14:7)
(Sverdlovsk Province--Construction industry)

KAZANTSEV, I.I., dotsent

Earthwork operations in preparatory operations for housing construction. Trudy Ural.politekh.inst. no.109:113-117 '61. (MIRA 14:7)
(Earthwork)

[illegible], I. N., Docent, Cand. Tech. Sci.

"Systems for Automatic Control of Direct-Current Electric Drives for Metal-Cutting Machines as a Set of Elementary Units."

Avtomatika i Telemekhanika, Vol. 6, No. 3, 1941.

KAZANTSEV, K. G.

USSR/Electricity - Circuit Breakers Nov 51

"Operating Experience With Fast-Acting Anodic Circuit Breakers," K. G. Kazantsev, Engr

"Elektrichestvo" No 11, pp 71-73

Discusses results of a year's operation of 2 anodic circuit breakers type 6xVAB-10 at an aluminum plant. This type breaker is recommended as reliable for mercury-arc rectifier substations, although it has some defects which can be eliminated by proper design. Submitted 30 Jun 51.

201T66

USSR/Electricity - Aluminum Production   Jan 52
Mercury - Arc Converters

"Changes in the Circuit of a Powerful Mercury-Arc Converter Installation," Engr K. G. Kazantsev

"Prom Energet" No 1, pp 25-27

Discusses fast-acting anodic circuit-breaker type 6XVAB-10 (First unit went into operation at end of 1949) designed by A. I. Golubev for protection of mercury-arc converter installations against arc-backs, especially for aluminum plants, which consume large currents. This breaker has shorter opening time

242T38

than oil type, protects equipment better from overloads, and is suitable for use with automatic repeated reclosing. With it power factor can be raised, cathodic circuit-breakers eliminated, and converter substations completely automatized.

242T38

KAZANTSEV, K. G.

621.316.57 : 621.318.5

4973 Rapid-acting circuit breakers and relays of the series 'Ural' system A. I. Gotsiber, K. G. KAZANTSEV. *Elektrichestvo*, 1954, No. 1, 51-[illegible]

The series discussed comprises automatic circuit-breakers particularly suitable as anode-circuit breakers for rectifying equipment yielding 4000 and 6000 A per unit, at 1500 V. Among the advantages of these types the following are stressed: Simplicity of design, rapid and absolutely reliable response, capacity of limiting [illegible] currents, thus suitability for the protection of rectifiers and their auxiliaries (transformers, main [illegible]

KAZANTSEV, Konstantin Georgiyevich; ANTIK, I.V., redaktor; LANOVSKAYA, M.P., redaktor izdatel'stva; EVENSON, I.M., tekhnicheskiy redaktor.

[Mercury-arc rotary substations in electrolysis plants] Trutno-preobrazovatel'nye podstantsii elektroliznykh zavodov. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1957. 349 p. (MLRA 10:6)
(Electric substations) (Electrolysis)

KAZANTSEV, K.G., inzh.

Some shortcomings in the design of large mercury-arc converter substations. Prom.energ. 19 no. 2:38-39 F '64. (MIRA 17:5)

DYNINA, R.F.; KAZANTSEV, L.I.; SHVARTS, E.G.

Poisoning with pachycarpine. Sud.-med. ekspert. 4 no.4:35-38 O-N-D '61. (MIRA 14:12)

1. Leningradskoye gorodskoye byuro sudebnomeditsinskoy ekspertizy (nachal'nik - kand.med.nauk M.A.Dal') i kafedra sudebnoy meditsiny (zav. - prof. A.P.Kurdyumov) I Leningradskogo meditsinskogo instituta imeni akademika I.P.Pavlova.
(PACHYCARPINE--TOXICOLOGY)

KAZANTSEV, P. A.

Planovyi remont puti brigadami putеobkhodchikov. [Planned repair of tracks by a crew of road inspectors]. Moskva, Gos. transp. zhel-dor. izd-vo, 1943. 16 p. port.
DLC: TF85.K35

SO: SOVIET TRANSPORTATION AND COMMUNICATIONS, A BIBLIOGRAPHY, Library of Congress Reference Department, Washington, 1952, Unclassified.

BEREG, G.S.; YEFIMOV, I.A.; KAZANTSEV, M.I., red.; ANTOKOL'SKAYA, A.M., red.izd-va; BYKOVA, V.V., tekhn. red.

[Separation methods for monomineral fractions] Metody vydeleniia monomineral'nykh fraktsii. Izd.2., perer. i dop. G.S.Bergerom. Moskva, Gosgeotekhizdat, 1963. 201 p. (MIRA 17:3)

BELYASHOV, N.M.; GLEBOV, A.V.; NGUYEN, T'YEN FUONG; RYZHKOV, I.P.; KAZANTSEV, I.I., glav. red.; TOPORKOV, D.D., otv. red.; IVKIN, N.M., red.; KOBZAR', P.N., red.; YEFIMOV, I.A., red.; SAGUNOV, P.G., red.

[Iron and titanium ore deposits in the Democratic Republic of Vietnam] Mestorozhdeniia zheleznykh i titanovykh rud Demokraticheskoi Respubliki V'etnam. [By] N.M.Beliashov i dr. Alma-Ata, Kazakhskii nauchno-issl. in-t mineral'nogo syr'ia, 1963. 83 p. (MIRA 17:9)

KATANSKIY, N.I.; KUSHNOV, A.S.

Attachment to the K-5 corescope for recovering oriented cores in vertical holes. Razved. i okh. nedr 30 no.7:50-51 Jl '64. (MIRA 17:12)

1. Kazakhskiy nauchno-issledovatel'skiy institut mineral'nogo syr'ya Ministerstva geologii i okhrany nedr Kazakhskoy.

KAZANTSEV, M.L.

8(3) PHASE I BOOK EXPLOITATION SOV/2164

Kalin, Nikolay Fedorovich, and Mikhail Lavrovich Kazantsev

Izyskaniye i proyektirovaniye kabel'nykh liniy electroperedachi 3 - 35 kv (Survey and Design of 3 - 35 KV Electric Cable Transmission Lines) Moscow, Gosenergoizdat, 1958. 190 p. 9,450 copies printed.

Ed.: A.L. Fayerman; Tech. Ed.: G.I. Matveyev.

PURPOSE: This book is intended for engineers and technicians concerened with the survey and design of cable transmission lines. It may also serve as a textbook for students of power-engineering institutes and tekhnikums.

COVERAGE: The book covers problems of surveying and designing 3 - 35 kv cable transmission lines for industrial plants and cities. It also deals briefly with the laying of various underground communication lines serving the cable networks. The authors discuss problems of investigating ground conditions along the proposed cable route and outline a detailed program of preliminary survey and technical investigation. They provide information necessary for selecting the type and size of cable, and information on cable-laying methods, capping and connecting conductors, and methods of grounding and protection against corrosion. The section

Card 1/4

dealing with selection of cables and cable-laying methods is in accordance with "Pravila ustroystva elektroustanovok" (Regulations on Electrical Installations). There are 14 Soviet references.

TABLE OF CONTENTS:

Foreword 3

Ch. 1. General Information on Underground Networks and Their Arrangement
1. Planning and construction projects 5
2. Classification of underground networks and their arrangement 5
3. Characteristics of underground networks 13
4. Groundwork conditions and network arrangement 16

Ch. 2. Survey of Cable Transmission Lines 27
5. Organization and program of survey
6. Preliminary survey of topography 30
7. Technical survey of topography 32
8. Investigation of ground conditions and effect of environment on cables 35
9. Data from surveys 44

50

Survey and Design of 3 - 35 KV Electric (Cont.) SOV/2164

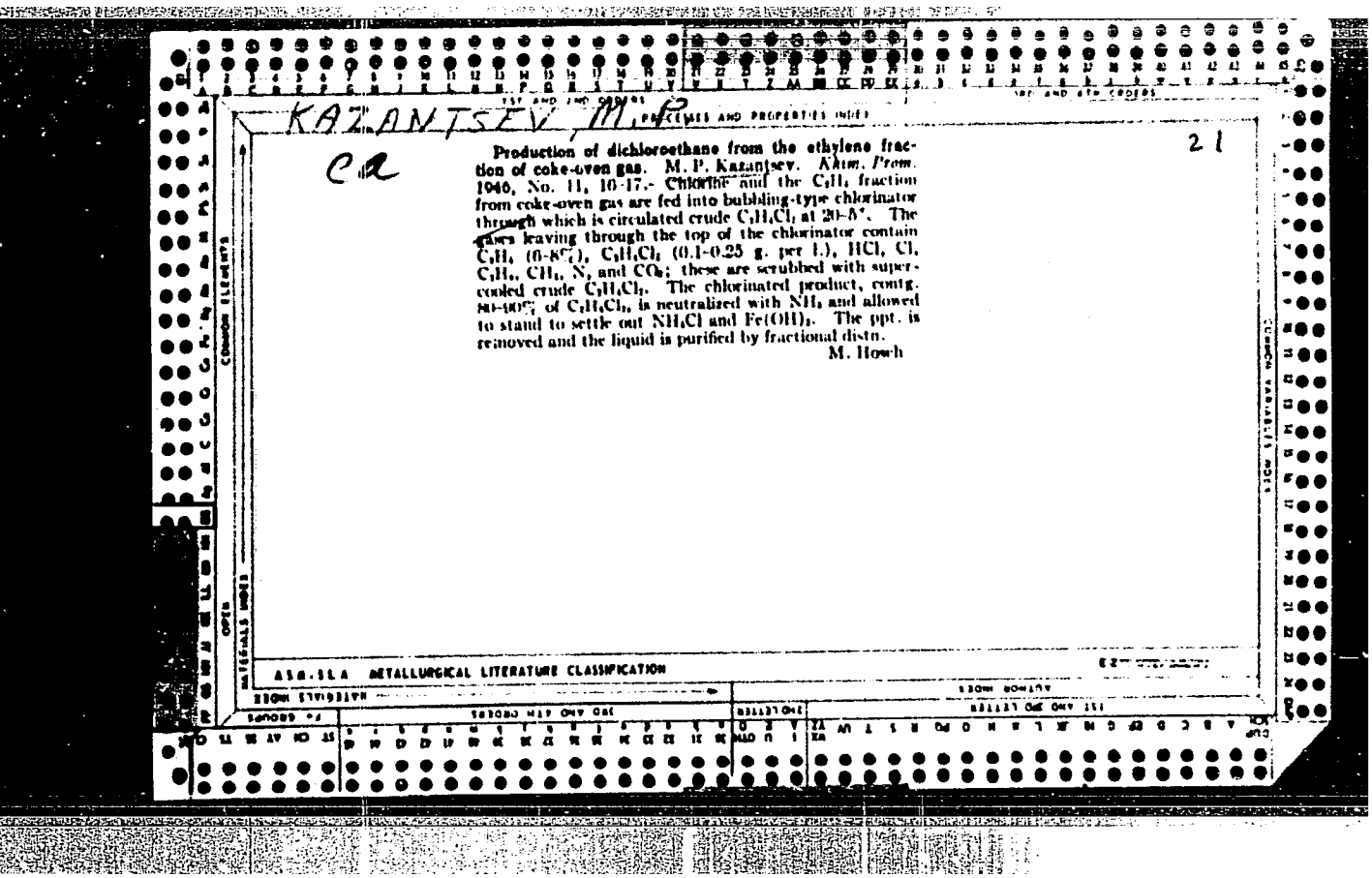
Ch. 3. Selection of Power Cables 55
10. Selection of rated voltage for cables 55
11. Selection of cable type 55
12. Selection of cable cross-section 56

Ch. 4. Design of 3 - 35 KV Cable Transmission Lines 63
13. General information 63
14. Laying cables directly in the ground 67
15. Laying cables in ducts 85
16. Laying cables in conduits 94
17. Laying cables in tunnels 111
18. Laying cables across rivers and water reservoirs 132
19. Laying cables on bridges 138
20. Installing cables at industrial sites 140
21. Laying cables in marshes, swamps and wooded areas 145
22. General information on protecting cables against corrosion 149
23. General information on the use of cable joints and seals 152
24. General information on capping and connecting cable conductors 159
25. Grounding 162

Card 3/4

KALIN, Nikolay Fedorovich; KAZANTSEV, Mikhail Lavrovich; SNEGIREV, L.S., red.; BORUNOV, N.I., tekhn.red.

[Surveying operations in the construction of overhead electric power transmission lines] Izyskaniia trass, vozdushnykh linii elektroperedachi. Izd.2., perer. i dop. Pod red. N.F.Kalina. Moskva, Gos.energ.izd-vo, 1961. 247 p. (MIRA 14:12)
(Electric lines--Overhead)



KAZANTSEV, M. P.

C2

21

Production of dichloroethane from the ethylene fraction of coke-oven gas. M. P. Kazantsev. *Khim. Prom.* 1940, No. 11, 10-17.- Chlorine and the C_2H_4 fraction from coke-oven gas are fed into bubbling-type chlorinator through which is circulated crude $C_2H_4Cl_2$ at 20-85°. The gases leaving through the top of the chlorinator contain C_2H_4 (0-8%), $C_2H_4Cl_2$ (0.1-0.25 g. per l.), HCl, Cl, C_2H_2, CH_4, N, and CO_2; these are scrubbed with supercooled crude $C_2H_4Cl_2$. The chlorinated product, contg. 80-90% of $C_2H_4Cl_2$, is neutralized with NH_3 and allowed to stand to settle out NH_4Cl and $Fe(OH)_3$. The ppt. is removed and the liquid is purified by fractional distn.

M. Hosch

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

KAZANTSEV, M. S.

AID P - 726

Subject : USSR/Electricity

Card 1/1 Pub. 29 - 19/26

Authors : Kazantsev, M. S., Eng. and Zotov, P. I., Eng.

Title : A simple method of shifting a generator to operate as a synchronous condensor.

Periodical : Energetik, 7 9, 25-28, S 1954

Abstract : The above shifting is often necessitated by the lack of reactive power in power systems. The authors describe a simple method of alteration of both parts of the turbine-generator coupling, which was applied to two 10,000-kw turbogenerators. 5 diagrams.

Institution : None

Submitted : No date

SELIVANOV, Gennadiy Yevgen'yevich; KAZANTSEV, Mikhail Yevgen'yevich; GORELOV, V.M., inzh., retsenzent; ROZIN, A.I., inzh., red.

[Problems and exercises on metal cutting and metal-cutting tools] Sbornik zadach i uprazhnenii po rezaniiu metallov i rezhushchemu instrumentu. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 182 p. (MIRA 15:1)
(Metal cutting—Study and teaching)

KAZANTSEV, N., gornyy mekhanik.

Better training of young miners. Mast.ugl. 4 no.11:31 N '55.
(MLRA 9:2)
(Karaganda Basin--Mining engineering--Study and teaching)

KAZANTSEV, N. (Barabinsk)

Innovator Aleksandr Bozhenov. Grazhd. av. 19 no.5:11 My '62.
(MIRA 18:6)

KAZANTSEV, N. D.

Kolkhoz property rights. Moskva, Gos. iuridicheskoe izd., 1949. 192 p.

KAZANTSEV, N. D.

Pravo kolkhoznoy sobstvennosti (Law of collective farm property) Moskva, Izd-vo Akademii Nauk SSSR, 1952.
46 p.
At head of title: Akademiya Nauk SSSR. Institut Prava.

KAZANTSEV, N. D., TURUBINER, A. M., PAVLOV, I. V., PYATNITSKIY, P. P., GRIGOR'YEV, V. K., ISUPOV, K. N.

Agricultural Laws and Legislation

"Questions of collective farm and land law". Reviewed by Kalandadze, A., Izv AN SSSR., Otd, ekon i prava, No. 1, 1952.

9. Monthly List of Russian Accessions, Library of Congress, August 1953. Unclassified.

[redacted], N. D.

Right of collective farm property in the U.S.S.R. Moskva, Gos. izd-vo iurid. lit-ry, 1953. 50 p. (Populiarnaia iuridicheskaia literatura) (54-41153)

Law

KAZANTSEV, N.D.

Novyi zakon o sel'skokhoziaistvennom naloge (New law on the agricultural tax). Moskva, Znanie, 1954. 24 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii, Ser. 5, no. 26)

SO: Monthly List of Russian Accessions, Vol 7, No 9, Dec 1954

KAZANTSEV, N D ,ED. N/5
722.101
.K22

Kolkhoznoye pravo (Kolkhoz law) pod. red. N. D. Kazantsev, I. V. PAVLOV i A. A. RUSKOL. Moskva, Gosyurizdat, 1955.
383 p.
Bibliographical footnotes.

[redacted], Nikolai Nikolaevich.

.P1
.R93Le3

Zakonodatel'nyye Osnovy Zemel'nykh Otnosheniy V Rumynskoy Narodnoy Respublike (Legislative Principles of Agricultural Conditions in the Rumanian People's Republic) Moskva, Gosyurizdat, 1956.

41 P.

At head of Title: Moscow. Universitet Kafedra Zemel'nogo I Kolkhoznogo Prava.

Bibliographic footnotes.

LB

KAZANTSEV, N.D.

[The charter of the agricultura artel] Ob ustave sel'skokhoziaistvennoi arteli. Moskva, Gosiurizdat, 1956. 50 p. (MIRA 9:10)
(Agriculture--Laws and legislation)
(Collective farms)

KAZANTSEV, Nikolay Dmitriyevich; VAKULENKO, V.P., red.; SHCHEDRINA, N.L., tekhn.red.

[The charter of the agricultural artel] Ob ustave sel'skokhoziaistvennoi arteli. Izd.2-oe, ispr.i dop. Moskva, Gos.izd-vo iurid. lit-ry, 1957. 65 p. (MIRA 10:12)
(Collective farms)

KAZANTSEV, N D ,ED.

Zemel'noye Pravo Agrarian Law Moskva, Gosyurizat, 1958.

311 P.

KAZANTSEV, Nikolay Dmitriyevich, doktor yurid. nauk, prof.;
KOLOTINSKAYA, Yelena Nikolayevna, kand. yurid. nauk;
RYGALIN, A.G., red.; SHCHEDRINA, N.L., tekhn. red.

[Legal aspects of conservation in the U.S.S.R.; a textbook]
Pravovaia okhrana prirody v SSSR; uchebnoe posobie. Moskva,
Gosiurizdat, 1962. 132 p. (MIRA 15:11)
(Conservation of natural resources)

KAZANTSEV, N. N.

Kazantsev, N. N. - "Investigation of the Operation of a Hammer Crusher in Producing Combined Fodder." Min Higher Education USSR. Moscow Technological Inst of the Food Industry. Moscow, 1956 (Dissertation for the Degree of Candidate in Technical Sciences).

So: Knizhnaya Letopis', No. 10, 1956, pp 116-127

BUGAKOV, P.S.; KAZANTSEV, N.V.

Chemical characteristics of some soils of the Kan Korest-steppe.
Izv. Sib. otd. AN SSSR no. 11:121-129 '60. (MIRA 14:1)
(Kan Valley--Forest soils) (Soil chemistry)

KAZANTSEV, N.Ye.; ISAYEV, M.G.; CHEREVAYKO, V.P.

Plant test of a hydroxyethylated fatty acid demulsifier for desalting oil. Neftepер. i neftekhim. no. 4:10-12 '64.
(MIRA 17:5)

1. Permskiy neftepereerabatyvayushchiy zavod.

KAZANTSEV, N.Ye.; ISAYEV, N.G.; CHERNYAYKO, V.L.; KUZLOVA, T.Ye.

Using sludge acid. Neftepor. i neftekhim. no.6:23-25 '64. (MIRA 17:9)

1. Permskiy neftepererabatyvayushchiy zavod.

KAZANTSEV, O.D.; KHLYSTOVA, V.N.; NAYDIS, L.M.

Features of the structure of the crystalline basement of the Volga Valley portion of Volgograd Province in connection with estimating the outlook for oil and gas in the terrigenous Devonian. Geol. nefti i gaza 6 no.12:33-37 D '62. (MIRA 15:12)

1. Volgogradneftegazrazvedka i Nizhne-Volzhskiy nauchno-issledovatel'skiy institut geologii i geofiziki.
(Volgograd Province--Petroleum geology)
(Volgograd Province--Gas, Natural--Geology)

KAZANTSEV, P.

CA

42

Apparatus for determination of elasticity and adhesion of grain cheese. P. Kazantsev. *Molochnaya Prom.* 11, No. 6, 39–41 (1950). The app. is a hand-operated screen cage with attached dynamometer, the indications of which give the phys. behavior of the specimen in compression and relaxation. G. M. Kosolapoff

KAZANTSEV, P., inzh.

Building of the first steamers on the Kama River. Rech. transp. 24 no. 10:18 '65. (MIRA 18:12)

KAZANTSEV, P.D.

BELYAYEV, I.F.; GUSHCHIN, S.G.; KAZANTSEV, P.D.

Streamless casting of thin plates of nonferrous metals. TSvet. met. 26 no.2:62-65 Mr-Ap '53. (MLRA 10:9)
(Founding)

USSR/Cultivated Plants. Forage Crops. M

Abs Jour: Ref Zhur-Biol., No 17, 1958, 77710.

Author : Kazantsev, P G.
Inst : Ubinsk Experiment Meliorative Station.
Title : Selection and Agrotechny of Cultivation of Grasses and Grass Mixtures for the Reclaimed Marshes of Baraba.

Orig Pub: Byul. nauchno-issled. i opytn. rabot Ubinsk. opytn. melior. st., 1957, No 2, 49-58.

Abstract: As a result of experiments in 1950-1956, it is shown that on reclaimed lowland marshes in Baraba, with appropriate agrotechny, a high and stable harvest of hay and seeds of perennial fodder grasses can be obtained with success. Spring and autumn periods of sowing are recommended for grass mixtures (awnless bromegrass, rhizome-less wheat-

Card : 1/2

KAZANTSEV, P. G., Candidate Agric Sci (diss) -- "The selection and agrotechnical cultivation of grass mixtures of the dry peat soils of Baraba". Moscow, 1959. 20 pp (VASKhNIL, All-Union Sci Res Inst of Fodder im V. R. Vil'yams), 150 copies (KL, No 24, 1959, 145)

KA[illegible]NT'EV, F.G.

Establishment of cultivated meadows on the drained marshes of Baraba. Trudy TOSBS no.6:430-440 '63. (MIRA 17:7)

SOV/137-57-10-18548

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 10, p 13 (USSR)

AUTHOR: Kazantsev, P.M.

TITLE: A Contribution to the History of the Pozhvinsk Plant (K istorii Pozhvinskogo zavoda)

PERIODICAL: Tr. In-ta istorii yestestvozn. i tekhn., 1957, Vol 9, pp 336-343

ABSTRACT: The founding, in March, 1754, and the development of the Pozhvinsk Copper Smelter and Iron Fabricating Plant.

P.N.

Card 1/1

KAZANTSEV, P.M. (Pozhva)

Materials for the biography of P.G. Sobolevskii. Vop.ist.est. i tekh. no.11:124-126 '61. (MIRA 14:11)
(Sobolevskii, Petr Grigor'evich, 1781-1841)
(Powder metallurgy)

KAZANTSEV, P.S.

New agricultural machines. Trakt. i sel'khozmash. no.10: 24-27 O '58. (MIRA 11:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyaystvennogo mashinostroyeniya.
(Agricultural machinery)

SHKREBKO, I.Ye., kand.ekonom.nauk, dotsent; Prinimali uchastiye: BYCHKOVA, A.P., inzh.; VOYEVODIN, M.A., inzh.; KAZANTSEV, S.A., inzh.; KONDAKOVA, A.A., inzh.; NEVOLINA, R.A., inzh.; CHARNYY, [redacted], inzh.

Studying main trends in the mechanization of production at the Krasnoural'sk Copper Smelting Combine. Trudy Ural. politekh. inst. no.120:23-32 '61. (MIRA 16:6)
(Krasnoural'sk—Copper industry—Technological innovations)

KAZANTSEV, S.S.

Leningrad subway station of new type. Transp.stroi. 9 no.5:30-32 My '59. (MIRA 12:12)

1. Nachal'nik Lenmetroproyekta.
(Leningrad--Subways)

KAZANTSEV, S.S., inzh.

New type of lining for running tunnels of the Leningrad subway.
Transp. stroi. 11 no.7:19-21 Jl '61. (MIRA 14:7)
(Leningrad--Tunnel lining) (Precast concrete construction)

KAZANTSEV, V.

VOSTROKNUTOV, A.; KAZANTSEV, V.

Supplying the province center with suburban produce. Sov. torg. no.3:21-24 Mr '58. (MIRA 11:2)

(Food industry)

KAZANTSEV, V.

Motor locomotive used for fire extinction. Pozh.delo 6:21 Mr '60. (MIRA 13:6)
(Fire extinction--Water supply)

KOROBKOV, I.; KAZANTSEV, V.

Organizing transportation on the small rivers of Perm Province.
Rech.transp. 20 no.6:22-24 Je '61. (MIRA 14:6)
(Perm Province--Inland water transportation)

KAZANTSEV, V.

Classes on farms. Sov. profsoiuzy 18 no.5:31-32 Mr '62.
(MIRA 15:3)

1. Direktor Rodnikovskoy shkoly sel'skoy molodezhi, Krasnodarskiy kray.
(Krasnodarsk Territory—Rural schools)

KAZANTSEV, V.

A portable receiver. Radio no.12:43-44 D '55. (MLRA 9:4)
(Radio--Receivers and reception)

KAZANTSEV, V.

KAZANTSEV, V.

Radio controlled dump trucks. IUn.tekh.no.12:7 D '57. (MIRA 10:12)

1. Zaveduyushchiy radiolaboratoriyey Saratovskogo dvortsa pionerov.
(Dump trucks--Models) (Remote control)

KAZANTSEV, V.

Radio unit built on semiconductors. IUn.tekh. 3 no.12:64 D '58. (MIRA 12:1)

1. Zaveduyushchiy laboratoriyey Saratovskogo dvortsa pionerov.
(Radio--Receivers and reception)

SOV-47-58-6-14/28

AUTHOR: Kazantsev, V.A.

TITLE: A Comparative Stand of Low Frequency Amplifiers (Sravnitel'nyy stend usiliteley nizkoy chastoty)

PERIODICAL: Fizika v shkole, 1958, Nr 6, pp 59 - 60 (USSR)

ABSTRACT: To show the obvious advantage of semiconductor triodes over ordinary electronic tubes, the author recommends making a unit for comparison on which 2 low frequency amplifiers are mounted, one based on electronic tubes and the other on semiconductor triodes. They operate with a gramophone recorder and a detector receiver. A dynamic loudspeaker of up to 3 watts capacity may be connected to the tube amplifier and one of 0.25 to 1.5 watt to the semiconductor amplifier. Best results can be obtained with the semiconductor amplifier by using a dynamic loudspeaker 1GD-9 with an output transformer.

Card 1/2

A Comparative Stand of Low Frequency Amplifiers SOV-47-58-6-14/28

The stand may serve as a visual aid for exercises in radio-engineering. Diagrams for a 2-stage low frequency amplifier based on electronic tubes and for the semiconductor amplifier are given in Fig. 1. Fig. 2 shows the entire arrangement. There are 2 diagrams and 1 photo.

ASSOCIATION: Saratovskiy dvorets pionerov (Saratov Palace of Pioneers)

1. Semiconductors--Electrical properties

Card 2/2

KUZNETSOV, A.A.; KAZANTSEV, V.A.

Work on the optional subject "Directing a radio club in a school."
Politekh.obuch. no.2:55-59 F '59. (MIRA 12:3)

1. Pedagogicheskiy institut, g. Saratov.
(Radio clubs)

KAZANTSEV, V.

Portable receiver. IUn. tekh. 5 no. 12:53 D '60. (MIRA 14:1)
(Transistor radios)

KUZNETSOV, A.A. (Saratov); KAZANTSEV, V.A. (Saratov)

Preparing future physics teachers to direct radio clubs in schools. Fiz. v shkole 20 no.5:110-111 S-O '60. (MIRA 13:11)
(Radio clubs)

KAZANTSEV, V.

Radio station... in a phonograph case. IUn. nat. no.8:27-28 Ag '62. (MIRA 15:9)
(Amateur radio stations)

KAZANTSEV, V.A.

USSR/ Physics - X-Ray analysis

Card 1/1 Pub. 22 - 21/49

Authors : Kazantzev, V. A.

Title : Study of the K - group of the Roentgen spectrum of Fe and Cr in the and phases of the system of the Fe-Cr alloys

Periodical : Dok. AN SSSR 101/3, 477-478, Mar 21, 1955

Abstract : Results are presented of the study of changes in the form, width, intensity and wave lenght of the K - and K - bands of the X-ray spectra of iron and chromium; also, the K - bands of chromium during the phase-transformation from to phases of the Fe-Cr system. One USSR reference (1939). Graphs; table.

Institution : The V. M. Molotov State University, Rostov

Presented by : Academician G. V. Kurdyumov, December 25, 1954

SOV/137-57-6-10648

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 6, p 174 (USSR)

AUTHOR: Kazantsev, V.A.

TITLE: On the Behavior of the Kβ Group of the X-ray Spectrum of Iron and Chromium in Fe-Cr System Alloys in Relation to Their Composition (O povedenii Kβ-gruppy rentgenovskogo spektra zheleza i khroma v splavakh sistemy Fe-Cr v zavisimosti ot sostava)

PERIODICAL: Sb. nauch. tr. Kuybyshevsk. industr. in-t, 1956, Nr 6, book 2, pp 187-190

ABSTRACT: The spectra of the Kβ group of Fe and Cr in Fe-Cr alloys with 11.4 - 94.23 % Fe were obtained by primary excitation in a high-vacuum spectrograph. The error in the determination of wave length by the maximum of intensity was ± 0.04 Xu. The length of the $\lambda K\beta_1$ wave of Fe and Cr in ferromagnetic alloys has no relation to their composition. In the paramagnetic state $\lambda K\beta_1$ of Cr increases by 0.53 Xu, while the $\lambda K\beta_1$ of Fe does not change. The $\lambda K\beta'$ of both Fe and Cr does not change with the composition. During the transformation into the paramagnetic state with an increase in Cr content, the $\lambda K\beta_1'$ of Fe is displaced by 3.70 ev in the short-wave sense, whereas the $\lambda K\beta'$ of

Card 1/2

On the Behavior of the Kβ Group of the X-ray Spectrum of Iron and Chromium (cont.)

Cr remains unchanged. In ferromagnetic alloys the short-wave edge of $\lambda K\beta_5$ of Fe and Cr and their intensity increase steadily. In paramagnetic alloys $\lambda K\beta_5^{kk}$ of Fe and Cr does not change. When the alloys are transformed into the paramagnetic state $\lambda K\beta_5$ of Fe and Cr changes with a jump; in Fe it decreases by 0.32 Xu and in Cr it increases by 0.23 Xu. In the same manner, the width of the $\lambda K\beta_5$ bands of Fe and Cr changes by jumps during the transformation into the paramagnetic zone. Other characteristics of $\lambda K\beta_5$ as well as $\lambda K\beta'''$ were also investigated. The author draws the conclusion that in the Fe-Cr system of alloys there is no complete correlation of electrons. With an increase in concentration of Cr (up to the magnetic transformation) there is no redistribution of the electrons in the lattice of Fe-Cr alloys, but the redistribution is significant in the zone of concentrations which correspond to the magnetic transformation.

I.D.

KAZANTSEV, V.T.

X-ray spectra of manganese-nickel alloys. V. A. Kazantsev. *Bull. Acad. Sci. U.S.S.R., Phys. Ser.* 20, 97-102 (1956)(English translation).—See *C.A.* 50, 11808g.

H. M. R.

KAZANTSEV, V.A.

K-8

Category : USSR/Optics - X Rays

Abs Jour : Ref Zhur - Fizika, No 2, 1957, No 5272

Author : Kazantsev, V.A.
Inst : Kuybyshev Industrial Institute, USSR
Title : Investigation of X-ray Spectra in Alloys of the Mn-Ni System

Orig Pub : Izv. AN SSSR, ser. fiz., 1956, 20, No 1, 107-112

Abstract : It was observed that as the temperature rises from 20° to 180°, the K-edge of Mn shifts strongly towards the higher energies, and as the temperature goes from 180 to 300° it shifts strongly towards the lower energies. The shifts of the edge reach 3.8 -- 4.2 ev. Data are cited on the behavior of 3d and 4sp bands in the spectra of Mn and Ni, and also on the change in their width in the range from 20° to 300°. For the 3d band of nickel it is concluded that it is subject to the influence of the magnetic transformations, but is independent of the temperature, and for the 4sp band the contrary is true. A high power spectrograph with bent quartz crystal (R = 1020 mm, dispersion 7.42 X mm^{-1}) was used to investigate the behavior of the form, width, intensity, and wavelength of the $K\beta_5$ bands of Mn and Ni upon magnetic transformation of the alloys under the influence of the change in the

Card : 1/2

Category : USSR/Optics - X-rays K-8

Abs Jour : Ref Zhur - Fizika, No 1, 1957 No 2564

Author : Kazantsev, V.A.
Inst : Rostov University, USSR
Title : X-Ray Tube for Spectral Analysis

Orig Pub : Izv. AN SSSR, ser. fiz., 1956, 20, No 1, 122-124

Abstract : Description of a simple X-ray tube for spectral analysis of ores and minerals. The body of the tube is made in the form of a polished seal. The tube is readily taken apart. The shape and dimensions of the focusing spot are regulated with the aid of a cylinder with a set of covers having various apertures. When widely focused the tube produces 50-60 ma at 60 Kv. The tube is installed in short-wave X-ray spectrographs.

Card : 1/1

20-1-23/64

AUTHOR KAZANTSEV, V.A.

TITLE Investigation of the $K\beta_5$-Bands of the X-ray Spectrum of Iron and of Chromium at the Magnetic Transformations of the Alloys of the System Fe - Cr.
(Issledovaniye $K\beta_5$-polos rentgenovskogo spektra zheleza i khroma pri magnitnykh prevrashcheniyakh splavov sistemy Fe -Cr -Russian)

PERIODICAL Doklady Akademii Nauk SSSR, 1957, Vol 114, Nr 1, pp 86-87 (U.S.S.R.)

ABSTRACT The magnetic transformations take place under influence of temperature. In particular, the author of the paper under review investigated the temperature of the focal point of the anode of the X-ray tube with the aid of indicator alloys. In this way it is possible to fix in advance a certain temperature of the sample at the anode and to maintain this temperature with an accuracy of $\pm$ 20°. Therefore it was possible to record the spectra of alloys in their ferromagnetic and paramagnetic states. For purposes of the investigation of the $K\beta_5$-bands, three alloys of the system Fe-Cr with appropriate Curie points were selected. The spectra were recorded by means of a vacuum spectrograph with curved crystal. The computations were based on the microphotographs that had been made at magnifications of 1:8 and 1:20.
The investigations yielded the following results: At the transition of the alloy into the paramagnetic state (both under influence of the temperature as well as resulting from the increase in the concentration of chromium in the alloy) the energy of the $K\beta_5$-photon increases in iron and decreases in chromium. In absence of magnetic transformation,

Card 1/2

KAZANTSEV, V.A.

20-3-22/59

AUTHOR: Kazantsev, V.A.

TITLE: An Investigation of the K Edge of the Absorption of Chromium in the α - and σ -Phases of the System of Fe-Cr Alloys (Issledovaniye K-kraya pogloshcheniya khroma v α - i σ -fazakh sistemy splavov Fe-Cr)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol. 115, Nr 3, pp. 501-503 (USSR)

ABSTRACT: The K-edge of the absorption in the α - and σ -phases was taken with a high-vacuum spectrograph of high light intensity with a bent crystal in the second order of the reflection. 12 to 15 absorption spectra were taken by the samples of the α - and the σ -phases respectively. All spectra were microphotometrically recorded by an automatically-recording microphotometer. The microphotographs of the K-edge of the absorption of Cr in the α - and σ -phases is illustrated by a figure. The following results are obtained: 1.) The K-edge of the Cr absorption shifts toward lower energies on the transition of the alloy from the α -phase to the σ -phase. The displacement of the bending point of the 3d-absorption bands

Card 1/3

amounts to 3,2 $\pm$ 0,4 eV. The center of the 4sp-absorption bands shifts on that occasion by 4,6 eV. 2.) The total width of the 3d-absorption bands of Cr in the α -phase amounts to 11,2 eV and the width of the 4sp-bands to about 17 eV. On the transition to the σ -phase the width of these bands decreases to 7,0 $\pm$ 0,8 eV and 13 $\pm$ 0,8 eV respectively. A complete agreement probably exists between the behavior of the emission spectra and the absorption spectra in the same phases of the alloys. When at the temperature adequate the development of the σ -phase some electrons go over to the iron, the here-examined behavior of the $K\beta_5$-emission bands as well as of the K-absorption edges of iron and chromium in the α -phase and in the σ -phase can be explained. When the electrons go over from chromium to iron the upper boundary of the filled 3d--states of the chromium atoms must become lower and in the case of iron this boundary must become higher. The magnetic moments of the atoms must compensate each other and the electric time power must change. All considerations given here are confirmed by the experiment. Most probably the going over of the electrons to the atoms of iron essentially changes the

Card 2/3

SOV/32-24-12-16/45

5(4)

AUTHOR: Kazantsev, V. A.

TITLE: Effect of the Potential on the Line Contrast in X-Ray Spectra (Vliyaniye napryazheniya na kontrastnost' liniy rentgenovskogo spektra)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol 24, Nr 12, pp 1460-1462 (USSR)

ABSTRACT: With an increase in the potential applied to an X-ray tube the intensity of the spectral lines I_{char} and the intensity of the continuous spectrum I_{cont} increase. The ratio $\gamma = \frac{I_{char}}{I_{cont}}$ decreases noticeably. For this reason it is necessary to choose a potential which will assure the greatest contrast in the spectrum. Using the equation of Kramers it was found that the calculated results and the experimental data contradict one another. A curve was plotted using the formula of Rossland-Ionsson (Fig 1). This curve shows that the contrast for γ at first increases with the potential, and then slowly decreases. The contrast in the following spectral lines was investigated:

Card 1/2

Effect of the Potential on the Line Contrast in X-Ray Spectra

42 Mo K_{α_1}, 82 Pb L_{α_1}, 74 W L_{α_1}, 26 Fe K_{α_1}; the experimental results were represented graphically (Figs 2-4). These results showed that in the first approach the contrast in X-ray spectral lines is directly dependent upon the potential in the tube. In the range of a three or four-fold potential for the line excitation the relative intensity can be accurately given by the theoretical equation. For potentials six times greater than the excitation potential (e.g., for Fe K_{α}) the contrast curve exhibits a point of inflection. x^2 has the order of magnitude of 10^{-3}. The best contrast is obtained with wave lengths of 0.7 to 2 Å and with a tube potential which is four or five times greater than the excitation potential. There are 5 figures and 6 references, 4 of which are Soviet.

ASSOCIATION: Voroshilovgradskiy pedagogicheskiy institut im. T. G. Shevchenko (Voroshilovgrad Pedagogic Institute imeni T. G. Shevchenko)

18(6),24(7)
AUTHOR: Kazantsev, V. A.

SOV/20-123-3-19/54

TITLE: The Investigation of the Kβ-Group of the X-Ray Spectrum of Manganese in the Alloys of the System Mn-Ni (Issledovaniye Kβ-gruppy rentgenovskogo spektra margantsa v splavakh sistemy Mn-Ni)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 3, pp 449-452 (USSR)

ABSTRACT: The present paper is a continuation of the author's preliminary work begun in 1952. He investigates the behavior of the shape, the breadth, the intensity, and the wavelength of the $K\beta_5$-bands of manganese under the influence of the variation of the composition and of the temperature of the alloys (and also under the influence of magnetic transformations of the alloys). At the same time, the behavior of the line $K\beta_1$ and of the satellites $K\beta'$ and $K\beta'''$ of manganese were investigated. The composition of the alloys under investigation is given by table 1. The alloys were produced in a high-frequency vacuum furnace from electrolytic manganese and nickel. The manganese spectra were excited according to the primary method and recorded by means

Card 1/3

of a vacuum spectrograph with a curved crystal. The satellite line $MnK\beta'''$ did not occur in all cases; it was sometimes so weak and so diffuse that its wavelength could not be measured. A figure shows the entire Kβ-group of the manganese spectrum. The shape of the satellite $K\beta'''$ is influenced by the composition of the alloy, by temperature, and also by magnetic transformations of the alloy. The satellite $MnK\beta'$ was rather intense in all cases. In some cases the maximum of this satellite was distinctly separate from the longwave branch $K\beta_1$. The line $MnK\beta_1$ is not influenced by temperature, magnetic transformations, or by the composition of the alloys. 4 tables contain data concerning the dependence of various characteristic properties of the $K\beta_5$-bands of manganese on the composition, the temperature, and the magnetic transformations of the alloys. From the above discussed investigations the following results are obtained: 1) A variation of the composition of the alloys does not influence the wavelength, shape, or breadth of the $MnK\beta_5$-bands. 2) With rising temperature the band $MnK\beta_5$ shifts towards the range of lower energies.

3) When the alloy goes over into the paramagnetic state as a result of a variation of composition, the energy of the $MnK\beta_5$-photon decreases from 1.20 to 1.6 ev (according to the nature of the alloy). 4) The magnetic transformations of the alloys due to temperature exercise the greatest influence upon the characteristic features of $MnK\beta_5$. The intensity, the shape, and the breadth of the $MnK\beta_5$-bands vary very considerably.

There are 4 figures, 5 tables, and 10 Soviet references.

ASSOCIATION: Luganskiy gosudarstvennyy pedagogicheskiy institut im. T. Shevchenko (Luganak State Pedagogical Institute imeni T. Shevchenko)

PRESENTED: April 21, 1958, by N. V. Belov, Academician

SUBMITTED: February 21, 1958

vestigated by means of a short wave spectrograph with curved crystal. A large number of spectra (series) was recorded in the first and second order of reflection. Evaluation of the microphotographs showed good agreement between the spectra of first and second order of reflection. A figure illustrates the microphotographs of the Kβ-group of the nickel spectrum

The Investigation of the $K\beta_5$ Band and of the K-Edge of the Absorption of Nickel in Transition Through the Curie Point

in metal. The following table shows the dependence of $NiK\beta_5$ on the magnetic state of the metal (passage through the Curie (Kyuri) point:

magnetic state	energy [ev]	breadth [ev]	intensity of the maximum
ferromagnetic	8325.2±0.2	12.2	1.0
paramagnetic	8327.3±0.2	10.4	0.9

During the transition of the metallic nickel into the paramagnetic state the energy of the $NiK\beta_5$-photon increases by 2.1 ± 0.2 ev. The breadth of the spectral band of $NiK\beta_5$ decreases by 1.8 ± 0.4 ev. The intensity of this band decreases somewhat during transition of the nickel into the paramagnetic state. The absorption-K-spectra of nickel were investigated by means of the same short wave spectrograph

Card 2/4

(using a vacuum tube) at the temperatures 22, 320 and 400°. A figure shows the microphotograph of the absorption-K-edge of nickel taken at 400°. Measurements and calculations were based on the same microphotographs of the spectra. The author determined the following variation in the position of the K-edge (in the energy scale) under the influence of temperature: Within the temperature range of from 22 to 320° the absorption edge as a whole shifts towards higher energies, and this shift amounts to an average of 1.2 ev. The short wave part of the edge is shifted to a greater extent (up to 1.4 kev). With a further rise of temperature (passage through the Curie point) the K-edge is shifted by 2.3 ev towards higher energies as against its position at the temperature of 320°. There are 2 figures, 1 table, and 6 references, 5 of which are Soviet.

ASSOCIATION: Luganskiy gosudarstvennyy pedagogicheskiy institut im. T. G. Shevchenko (Lugansk State Pedagogical Institute imeni T. G. Shevchenko)

PRESENTED: May 28, 1958, by G. V. Kurdyumov, Academician

SUBMITTED: March 11, 1958

Card 3/4

Card 4/4

4sp absorption band is then shifted by 4.2 ± 0.3 ev towards the same side. 2) Within the error limits the width of the 3d-absorption band in the α- and σ-phases has the same value (9.5 ± 0.5 ev). 3) By transition of the alloy into the σ-phase the width of the 4sp-absorption band decreases from 12.6 to 18.2 ev (error ± 0.6 ev). 4) The total amount of the discontinuities of the K-edge of the absorption of iron in the α- and σ-phases is less than that of the discontinuities of the absorption band of chromium. A detailed analysis of the results obtained by the present paper and by other papers leads to the following general conclusions: The phase transition α → σ occurs under the influence of a protracted action of high temperature, and is connected(as the variations in the spectra of the iron- and chromium atoms show) with the re-distribution of 3d- and 4sp-states - both populated and not populated with electrons - (and covered in the lattice of the alloy). As a result of this re-distribution of electrons a new interaction of atoms of iron and chromium apparently occurs in the lattice of the alloy, which leads to the occurrence of a new structure (σ-phase) and to an essential change

The K-Edge of the Absorption of Iron in the α- and σ-Phase of the System of the Alloys Fe-Cr SOV/20-124-4-21/67

in some properties of the system. There are 1 figure and 2 Soviet references.

ASSOCIATION: Luganskiy gosudarstvennyy pedagogicheskiy institut im. T. G. Shevchenko
(Lugansk State Pedagogic Institute imeni T. G. Shevchenko)

PRESENTED: July 21, 1958, by G. V. Kurdyumov, Academician

SUBMITTED: July 18, 1958

Card 3/3

18.8100

28668
S/020/61/140/002/013/023
B104/B102

AUTHOR: Kazantsev, V. A.

TITLE: Study of the K_{β_5} band of the nickel X-ray spectrum in alloys of the system Mn - Ni

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 140, no. 2, 1961, 340-342

TEXT: This paper continues the study of Mn - Ni alloys (Ref. 1: DAN, 123, no. 3, 449 (1958)). Form, width, intensity, and position of the K_{β_5} band of nickel were studied as functions of alloy composition, temperatures, and magnetic transformations. Specimens nos. 2, 3, 5, and 6 with 51.3, 59.2, 86.21, and 92.43% by weight of Ni (Ref. 1) were investigated. The K spectrum of Ni was examined with a bent-crystal tube spectrograph by M. A. Blokhin (Metody rentgenospektral'nykh issledovaniy - Methods of X-ray spectrum analyses, M, 1959, p. 17 and 180). The X-ray tube was designed by V. A. Kazantsev. Dispersion in the spectral range studied was 3.92 $X \cdot mm^{-1}$. The specimen temperature on the anode was controlled by indicator alloys (error: $\pm$ 20°C). Conclusions: (1) At low temperatures,

Card 1/3

Study of the K_{β_5} band of the ...

an increase in the nickel content has no effect on the band characteristics ($\lambda, \Delta E_{1/2}$). At high temperatures, the wavelength (especially that of the K_{β_5} band) decreases with increasing Ni content. The width of this band increases. (2) The transition of the alloy into the paramagnetic state (with increasing Mn content) is accompanied by an increase of the NiK_{β_5} photon energy (by 2.2 ev, on an average) and an increase in asymmetry of this band. Intensity and width of this band increase also. (3) The magnetic transformation due to heating of alloys is accompanied by a mean energy increase (2.1-2.8 ev) of the NiK_{β_5} photons. The band becomes strongly asymmetric. A magnetic transformation of the system (due to temperature increase or change in composition) produces uniform changes in the K_{β_5} band characteristics. The changes in intensity and width of these bands (of Ni and of Mn) are opposite to each other, but of the same extent. Therefore, the author assumes that the paramagnetic state of the system Mn - Ni is characterized by a fully defined distribution of the 4sp states, filled by 3d electrons, in the lattice of the

Card 2/3

28668

Study of the K_{β_5} band of the ... S/020/61/140/002/013/023
B104/B102

paramagnetic alloy. E. Ye. Vaynshteyn and B. I. Kotlyar (DAN, 110, no. 1, (1956)) are mentioned. There are 2 figures, 3 tables, and 3 Soviet references.

ASSOCIATION: Tul'skiy gosudarstvennyy pedagogicheskiy institut im. L. N. Tolstogo (Tula State Pedagogical Institute imeni L. N. Tolstoy)

PRESENTED: June 23, 1961, by N. V. Belov, Academician

SUBMITTED: November 4, 1960

Card 3/3

[redacted], V. F.

"The Movement of Gas Bubbles in a Sound Field Caused by Bjerknes Forces."

paper presented at the 4th All-Union Conf. on Acoustics, Moscow, 25 May - 2 Jun 58.

24(6)
AUTHORS: Rozenberg, L. D., Kazantsev, V. F. SOV/20-124-1-22/69

TITLE: On the Physics of the Ultrasonic Treatment of Solid Materials (O fizike ul'trazvukovoy obrabotki tverdykh materialov)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 1, pp 79-82 (USSR)

ABSTRACT: In spite of the comparatively rapid and extensive development of the ultrasonic method of treating solid materials, the physical bases of these processes have, as yet, not been made clear. The hypotheses concerning the nature of the forces causing the impacts of abrasive particles upon the surface to be treated may be subdivided into the following 3 main groups: 1) Ponderomotoric forces of the sonic field and hydrodynamic currents (sonic wind). 2) Shock waves forming in connection with the annihilation of cavitation bubbles. 3) Purely mechanical shocks of the oscillating front surface of the instrument. For hypothesis 3 there are the following 3 variants: a) the impact is transmitted by the abrasive particles located on the surface treated; b) the impact is transmitted by the particles suspended in the intermediate space; c) the front surface of the

Card 1/4

oscillating instrument is charged (sharzhirovat') by the abrasive particles. For the purpose of solving this physically interesting problem, which is of great practical importance, the authors used the slow-motion picture method. The experimental apparatus is described in short. Investigations were carried out at the resonance frequency of the resonator of 6.8 kilocycles. A table contains the main parameters of several series of tests. The average size of the abrasive grain was 220 μ with a scattering of 150-440 μ. The exposed films were visually investigated after being treated, after which they too were treated by the "kineogram" method. By evaluating the experimental material in this manner it was possible to observe a motion of the abrasive particles, which is due to nearly all the aforementioned causes. However, this motion of abrasive particles did not by any means in all cases lead to a cutting off of the glass particles. Treatment of the glass was observed only in the case of a direct impact of the instrument onto the abrasive particle located on the surface of the glass. Such a case is explained on the basis of a photograph. A motion of abrasive particles that is due to

other causes does not destroy the glass. The velocities transmitted by the cavitation bubbles on to the suspended particles are only low. For the purpose of determining the empirical dependence of the reproducibility of the process upon the viscosity of the working liquid it will suffice to compare the rates at which particles move in water and in glycerin. The authors thank Kafedra nauchnoy i uchebnoy fotografii i kinematografii MGU (Chair for Scientific and Instructional Photography and Cinematography at Moscow State University), and especially S. R. Zhukovskiy for making it possible to work with the FP-22 camera and for his help in developing the slow-motion picture method. There are 4 figures, 1 table, and 3 Soviet references.

ASSOCIATION: Akusticheskiy Institut Akademii nauk SSSR (Acoustics Institute of the Academy of Sciences, USSR)

66471
~~10(4)~~ 24.1200, 10.2000 SOV/20-129-1-17/64

AUTHOR: Kazantsev, V. F.

TITLE: The Motion of Gas Bubbles in a Fluid Under the Influence of Bjerknes Forces, Occurring in an Acoustic Field

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 1, pp 64 - 67 (USSR)

ABSTRACT: By integrating the equation of motion of gas bubbles in a non-ideal fluid under the influence of Bjerknes central forces the dependence of the distance of the bubbles on time and on the other parameters is found for a non-monochromatic radiation. The interaction of the gas bubbles was experimentally investigated by means of slow-motion method. The accomplishment of these investigations is shortly described. A frequency of 10800 cycles was applied in these investigations. The gas bubbles started to attract one another at the instant of the occurrence of the acoustic field. Two films were made by means of the slow-motion method, differing in amount and kind of the sound pressure in the fluid. The proceeding of the process as a whole and the character of the motion of each

Card 1/3

pair of the bubbles, attracting on another could be determined after the evaluation of the experimental results. The coalescence of the gas bubbles starts exactly at the moment of application of the acoustic field. Several of the pictures of such a film are explained by an added figure. The coalescence process is accelerated by lengthening the radii of the bubbles. The interaction forces increase if the size of the bubbles approaches the resonance-size of one of the frequency components of the field. The gas bubbles start at a certain instant to move with a velocity, that increases with decreasing distance between them. This dependence may be described almost exactly in all coalescence processes investigated by the equation $\sqrt[3]{l} = B(C-t)$. Here: l denotes the distance between the bubbles, t - time, C - constant. The parameter B determines the slope of the curve towards the time axis. Other diagrams show the dependence of the coalescence parameter B on the radii of the bubbles as well as a pressure oscillogram. The complex shape of pressure is determined by the parametric oscillations of the

Card 2/3

The Motion of Gas Bubbles in a Fluid Under the Influence of Bjerknes Forces, Occurring in an Acoustic Field

cuvette walls and by the non-linear oscillations of the gas bubbles even at great amplitudes of excitation. The author thanks L. M. Brekhovskikh for his interest in the present paper, L. D. Rozenberg for his advice and his interest in the experiments and S. R. Zhukovskiy for his assistance in taking the motion-pictures. There are 4 figures and 4 references, 3 of which are Soviet.

ASSOCIATION: Akusticheskiy institut Akademii nauk SSSR (Acoustical Institute of the Academy of Sciences, USSR)

PRESENTED: June 25, 1959, by N. N. Andreyev, Academician

SUBMITTED: June 23, 1959

Card 3/3